AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A method of extending an ~~An~~ Open Shortest Path Found (OSPF) ~~packet of an OSPF~~ protocol used in a network having a plurality of nodes connected by optical links, the OSPF protocol having an OSPF packet comprising an opaque Link State Advertisement (LSA) having an LSA header and a LSA payload, ~~the LSA including~~ the method comprising:

~~an LSA header having~~ providing on the LSA header a single ~~Vendatt~~ Vendor attribute Link State Identification (ID) field ~~instead of the Opaque Type and the Type-Specific ID fields of a standard LSA header~~; and

providing on the LSA payload a set of Vendor Attribute Type/Length/Value (TLV) fields, the Value field including an Enterprise Code field, including information identifying a vendor, and a ~~Vendatt~~ Vendor attribute ~~-~~Data section, and the Type field being a ~~Vendatt~~ Vendor attribute~~-~~Type field indicating the presence of the Enterprise Code field in the Value field;

the ~~Vendatt~~ Vendor attribute Link State ID field of the LSA header indicating the presence of the set of Vendor Attribute TLV fields.

2. (currently amended) ~~An OSPF packet~~ The method as described in claim 1, wherein the ~~Vendatt~~ Vendor attribute Link State ID field of the LSA header has a numerical value, which is designed not to conflict with the numerical values of a ~~the~~ Opaque Type and a ~~the~~ Type-Specific ID fields of a standard LSA header.

3. (currently amended) ~~An OSPF packet~~ The method as described in claim 2, wherein the numerical value of the ~~Vendatt~~ Vendor attribute Link State ID field indicates the presence of Vendor specific link related information in the ~~Vendatt~~ Vendor attribute~~-~~Data section of the set of Vendor Attribute TLV fields.

4. (currently amended) ~~An OSPF packet~~ The method as described in claim 2, wherein the numerical value of the ~~Vendatt~~ Vendor attribute Link State ID field indicates

the presence of Vendor specific node related information in the ~~Vendatt~~ Vendor attribute-Data section of the set of Vendor Attribute TLV fields.

5. (currently amended) ~~An OSPF packet~~ The method as described in claim 3, wherein the Vendor specific link related information is a wavelength division multiplexing (WDM) link related information comprising one or more of the following:
frequencies of dither tones ~~(a wavekey)~~ modulated onto a wavelength of the WDM link;
a location field listing the physical shelf, card slot, and port location of the node terminating the WDM link;
a wavelength identifier of the wavelength of the WDM link;
a path name ~~trail name~~ assigned to the wavelength of the WDM link;
a direction of the WDM link; and
a working state of the wavelength of the WDM link.

6. (currently amended) ~~An OSPF packet~~ The method as s described in claim 5, wherein the ~~Vendatt~~ Vendor attribute-Data section comprises a sub-TLV field, the sub-TLV field comprising a sub-sub set of Vendor Attribute TLV fields, which contains said Vendor specific link related information.

7. (currently amended) ~~An OSPF packet~~ The method as described in claim 4, wherein the Vendor specific node related information comprises one or more of the following:
a Node Name which includes a text string bearing the name of the node; and
a Software Version which includes a text string characterizing the current software load of the node.

8. (currently amended) ~~An OSPF packet~~ The method as described in claim 7, wherein the ~~Vendatt~~ Vendor attribute-Data section comprises a sub-TLV field, the sub-TLV field comprising a sub-sub set of Vendor Attribute TLV fields, which contains said Vendor specific node related information.

9. (currently amended) ~~An OSPF packet~~ The method as described in claim 8, wherein the sub-TLV field comprises an Advertising Router ID field.

10. (currently amended) A method ~~protocol~~ for distributing vendor specific information for a WDM optical network, the method comprising: ~~based on the Open Shortest Path Found (OSPF) protocol, wherein the OSPF protocol is extended to provide~~

providing an OSPF packet, the OSPF packet comprising an opaque Link State Advertisement (LSA) having an LSA header and a LSA payload; ~~LSA including:~~

~~an LSA header having~~ providing on the LSA header a single ~~Vendatt~~ Vendor attribute Link State Identification (ID) field ~~instead of the Opaque Type and the Type-Specific ID fields of a standard LSA header~~; ~~and~~

providing on the LSA payload a set of Vendor Attribute Type/Length/Value (TLV) fields, the Value field including an Enterprise Code field and a ~~Vendatt~~ Vendor attribute-Data section, and the Type field being a ~~Vendatt~~ Vendor attribute-Type field indicating the presence of the Enterprise Code field in the Value field; and

sending said OSPF packet to one or more nodes of the optical network;

the ~~Vendatt~~ Vendor attribute Link State ID field of the LSA header indicating the presence of the set of Vendor Attribute TLV fields and wherein said Enterprise code field includes information identifying a vendor.

11. (currently amended) The method ~~A protocol~~ as described in claim 10, wherein the ~~Vendatt~~ Vendor attribute Link State ID field of the LSA header has a numerical value, which is designed not to conflict with the numerical values of an ~~the~~ Opaque Type and a ~~the~~ Type-Specific ID fields of a standard LSA header.

12. (currently amended) The method ~~A protocol~~ as described in claim 11, wherein the numerical value of the ~~Vendatt~~ Vendor attribute Link State ID field indicates the presence of Vendor specific link related information in the ~~Vendatt~~ Vendor attribute-Data section of the set of Vendor Attribute TLV fields.

13. (currently amended) The method ~~A protocol~~ as described in claim 11, wherein the numerical value of the ~~Vendatt~~ Vendor attribute Link State ID field indicates the presence of Vendor specific node related information in the ~~Vendatt~~ Vendor attribute-Data section of the set of Vendor Attribute TLV fields.

14. (currently amended) The method ~~A protocol~~ as described in claim 12, wherein the Vendor specific link related information is a wavelength division multiplexing (WDM link related information comprising one or more of the following:
frequencies of dither tones ~~(a wavekey)~~ modulated onto a wavelength of the WDM link;
a location field listing the physical shelf, card slot, and port location of the node terminating the WDM link;
a wavelength identifier of the wavelength of the WDM link;
a path name ~~trail name~~ assigned to the wavelength of the WDM link;
a direction of the WDM link; and
a working state of the wavelength of the WDM link.

15. (currently amended) The method ~~A protocol~~ as described in claim 14, wherein the ~~Vendatt~~ Vendor attribute-Data section comprises a sub-TLV field, the sub-TLV field comprising a sub-sub set of Vendor Attribute TLV fields, which contains said Vendor specific link related information.

16. (currently amended) The method ~~A protocol~~ as described in claim 13, wherein the Vendor specific node related information comprises one or more of the following:
a Node Name which includes a text string bearing the name of the node; and
a Software Version which includes a text string characterizing the current software load of the node.

17. (currently amended) The method ~~A protocol~~ as described in claim 16, wherein the ~~Vendatt~~ Vendor attribute-Data section comprises a sub-TLV field, the sub-TLV field comprising a sub-sub set of Vendor Attribute TLV fields, which contains said Vendor specific node related information.

18. (currently amended) The method ~~A protocol~~ as described in claim 17, wherein the sub-TLV field comprises an Advertising Router ID field.

19. (currently amended) A method for distributing wavelength identification information for a WDM optical network using a known routing protocol, the method comprising:

~~where the known routing protocol is extended to provide~~ providing a packet formatted according to the known routing protocol ~~for transmitting vendor specific information related to wavelength identification~~; and ~~,~~ the packet comprising

inserting in said packet a ~~Vendatt~~ Vendor attribute-type field, a ~~Vendatt~~ Vendor attribute-length field, an Enterprise Code field, and a ~~Vendatt~~ Vendor attribute-data section, wherein the ~~Vendatt~~ Vendor attribute-Data section includes ~~the~~ a wavelength identification information to be distributed and wherein said Enterprise code field includes information identifying a vendor.

20. (currently amended) The method described in claim 19, wherein the known routing protocol is the OSPF protocol, and the packet includes a Link State Advertisement (LSA), comprising a set of Type/Length/Value (TLV) fields including said ~~Vendatt~~ Vendor attribute-type, ~~Vendatt~~ Vendor attribute-length, Enterprise Code fields, and the ~~Vendatt~~ Vendor attribute-data section.

21. (currently amended) A WDM optical network, using a known routing protocol for distributing wavelength identification information for the WDM optical network ~~, the protocol being based on a known routing protocol, which is extended to provide a packet for transmitting vendor specific information related to wavelength identification~~, the WDM network comprising:

a first network element for generating and transmitting a ~~the~~ packet formatted according to said known routing protocol and comprising a ~~Vendatt~~ Vendor attribute-type field, a ~~Vendatt~~ Vendor attribute-length field, an Enterprise Code field, and a ~~Vendatt~~ Vendor attribute-data section, wherein the ~~Vendatt~~ Vendor attribute-Data

section includes the wavelength identification information to be distributed; said Enterprise code field including information identifying a vendor; and a second network element for receiving said packet.

22. (currently amended) The network as described in claim 21, wherein the known routing protocol is OSPF, and the packet includes a Link State Advertisement (LSA), comprising a set of Type/Length/Value (TLV) fields, including said ~~Vendatt~~ Vendor attribute-type, ~~Vendatt~~ Vendor attribute-length, Enterprise Code fields, and the ~~Vendatt~~ Vendor attribute-data section.